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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,304

05/04/2006

Hatsuhiko Harashina

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EXAMINER

REDDICK, MARIE L

ART UNIT

PAPER NUMBER

1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,304	Applicant(s) HARASHINA, HATSUHIKO	
	Examiner MARIE REDDICK	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2009 and 09 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/09/09</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 10/09/09 has been considered by the Examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-21 and 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The recited “aldehyde emission-inhibiting” and “hydroxyl polycarboxylic acid” per claim 10 constitute indefinite subject matter as per the non-express establishment of proper antecedent basis. It is **suggested** that applicant insert “emission” after “aldehyde” at line 2 and delete “hydroxyl” and insert in its stead “hydroxy”.

B) The recited “styrenic” per claim 19 constitutes indefinite subject matter as per it not being readily ascertainable as to if or how said objectionable term further limits the claims. It is suggested that “styrene” be used in lieu of “styrenic”.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-12 and 14-21 and 24-26 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Harashina (International Patent WO 0105888) as interpreted by the English Equivalent to Harashina (US 6,753,363), authorized per MPEP 901.05.

Harashina, English equivalent to WO '888, teaches a composition defined basically as containing a polyacetal resin, a flame retardant, a basic nitrogen compound wherein, said nitrogen compound includes hydrazine and derivatives thereof and conventional adjuvants (Abstract of Harashina and claims 12 & 14-20). More specifically, Harashina define the hydrazine derivatives as compounds which include mono- and polycarboxylic acid hydrazides, viz., C2-C22 aliphatic monocarboxylic acid hydrazides, C6-C20 aromatic carboxylic hydrazides and other mono- and polyhydrazides derived from C2-C40 saturated aliphatic polycarboxylic acids and ester derivatives thereof, C8-C16 alicyclic polycarboxylic acids and ester derivatives thereof, C4-C20 unsaturated polycarboxylic acids and ester derivatives thereof and C7-C16 aromatic polycarboxylic acids and ester derivatives thereof with preference given to the C2-C22 aliphatic monocarboxylic acid hydrazides (col. 30, lines 7-32 of Harashina and claim 10). Harashina further teaches that the basic nitrogen containing compound (hydrazide compound) can be used singularly or in a mixture and in an amount of about 0.01 to 80, most

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preferably, 0.1 to 20 pbw per 100 pbw of the polyacetal resin (col. 31, lines 37-50 of Harashina and claim 11). Harashina further teaches that the antecedently recited conventional adjuvants include drip inhibitors, antioxidants such as hindered phenols, fillers such as silicon compounds, colorants, a weather (light) resistant stabilizer, slip agents such as silicone oil and silicone resin, impact resistant improvers (core-shell polymers), additional resins which include acrylic resins, polyester resins, polyester resins, etc., an oxidation inhibitor, inorganic and organic flame retardants such as silicon-containing compounds which include (poly)organosiloxanes, heat stabilizer(s), useful in enhancing the heat stability of the polyacetal resin, such as alkaline or alkaline earth metal compounds, particularly organic carboxylic acid metal salts which include calcium citrate with preference given to the calcium and magnesium compounds (col. 31, lines 51-56, the paragraph bridging cols. 33 & 34, col. 34, lines 13-67 & cols. 35 and 36 of Harashina and claims 10, 12, 14-20 & 24). Harashina further teaches that the amount of organic carboxylic acid metal salt compound (heat stabilizer) operable within the scope of the invention is about 0.01 to 20 preferably about 0.1 to 15 pbw per 100 pbw of the polyacetal resin (col. 36, lines 38-41 of Harashina and claim 21). Harashina further teach that the polyacetal resin composition can be a particulate or molten mixture and can be prepared by mixing, e.g., the polyacetal resin, the basic nitrogen-containing compound (hydrazide compound) and heat stabilizer (organic carboxylic acid metal salt) additive, viz., a process comprising mixing the components together, kneading and extruding the resultant mixture using a uniaxial or biaxial extruder into pellets (col. 36, lines 43-

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55 of Harashina). Harashina further teaches that mixing of a powdered polyacetal resin (substrate) with other components such as a basic nitrogen-containing component (hydrazide) followed by melt-kneading to yield a shaped article is advantageous (paragraph bridging cols. 36 and 37 of Harashina).

Harashina further teaches that the shaped article derived from the polyacetal resin composition has a variety of usages which include mechanical parts, electric/electronic fields and parts, daily life needs, etc. (col. 37, lines 16-60 of Harashina and claim 26). Harashina therefore anticipates the instantly claimed invention with the understanding that a) the polyacetal resin composition of Harashina is sufficiently small enough to anticipate the claimed invention, In re Schaumann, 572 F.2d 312, 197 USPQ 5 (CCPA), Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) and In re Sivaramakrishnan, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982). When the species is clearly named, the species claim is anticipated no matter how many other species are additionally named and b) the components per claims 15-20 are not positively recited.

Although Harashina is silent with respect to the aldehyde inhibiting property, the examiner has a reasonable basis for believing that this property may be met by Harashina since the composition is essentially the same as and made in essentially the same manner as the claimed composition.

As to the molded product limitations per claimed 25, it is presumed that if the molded polyacetal resin composition of Harashina is subjected to the conditions identified per said claim, the formaldehyde emission property would be met.

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Applicant has the burden of showing that, if fact, the above is not the case by proving otherwise. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Moreover, when the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not, *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Even if it turns out that the examiner has somehow missed the boat and the claims are not anticipated, it would have been obvious to the skilled artisan, at the time the invention was made, to extrapolate from Harashina, the precisely defined invention, as per such having been within the purview of the general disclosure of Harashina and with a reasonable expectation of success.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harashina (International Application WO 0105888) as interpreted by the English Equivalent to Harashina (US 6,753,363), authorized per MPEP 901.05.

Harashina, English equivalent to WO '888, is as described supra and as applied to claims 10-12, 14-21 & 24-26. Further, the disclosure of Harashina differs basically from the claimed invention as per the non-express disclosure of an embodiment directed to a) an aldehyde-inhibiting composition according to claim 1, wherein the metal salt of a hydroxy polycarboxylic acid is a hydrate salt (claim 13). As to a), based on the structural similarity of the metal salt of the hydroxyl polycarboxylic acid and its hydrate salt, it would have been obvious to the skilled artisan, at the time the invention was made, to use the hydrate salt in formulating the polyacetal composition of Harashina with a reasonable expectation that it would perform in a manner similar to its counterpart, absence some evidence of unusual or unexpected results. There is absolutely nothing viable on this record diffusing this issue. In obviousness rejections based on close similarity in chemical structure, the prima facie case of obviousness rises from the expectation that compounds similar in structure will have similar properties, In re Payne, 606 F.2d 303, 203 USPQ 245 (CCPA 1979); In re Hoch, 428 F.2d 1341, 1342 n.3 166 USPQ 406, 407 n. 3 (CCPA 1970) and In re Gyurik, 596 F.2d 1012, 201 USPQ 552, 557 (CCPA 1979).

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10. US Patent Application Publication 20030195280 to Disch et al, cited by applicant, is noted of interest in teaching polyoxymethylene molding compositions and is considered merely cumulative to the prior art supra.

Response to Arguments

11. Applicant's arguments filed 08/05/09 have been fully considered but they are not persuasive.

Relative to the Rejection of claims 1-4, 6-21 and 24-26, now 10-12, 14-21 & 24-26 under 35 USC 102 (b)/103 (a) and the Rejection of claims 5, 22 & 23, now 13 under 35 USC 103 (a) over Harashina (International Application WO 0105888) as interpreted by the English Equivalent to Harashina (US 6,753,363), authorized per MPEP 901.05.....It is urged that the Rejections are proper and herein maintained as per reasons clearly stated in the Grounds of Rejection supra. The crux of Counsel's arguments appears to hinge on the failure of Harashina to disclose or suggest such a specific combination of components, i.e., a combination of a specific aldehyde-emission composition, as claimed. With all due respect to the opinion of Counsel, Harashina teaches every element of the claimed composition as clearly pointed out in the rejection supra.

As to the carboxylic acid hydrazide and the calcium citrate being but one amongst many compounds, A REFERENCE THAT CLEARLY NAMES THE CLAIMED SPECIES ANTICIPATES THE CLAIM NO MATTER HOW MANY OTHER SPECIES ARE NAMED: A genus does not always anticipate a claim to a species within the genus. However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. Ex parte A, 17 USPQ2d 1716 (Bd. Pat.

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App. & Inter. 1990). See also *In re Sivaramakrishnan*, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982).

As to the use of the basic nitrogen compound of Harashina, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, and then it meets the claim.

As to the silence of Harashina to disclose the hydroxyl polycarboxylic acid as a preferred heat stabilizer and an optional slip agent such as a silicone oil, silicone resin, etc. and not taught in the Examples, PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN: "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Upsher-Smith Labs. v. Pamlab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005).

As to the showing of unexpected results, such is insufficient to confer patentability under 35 USC 102. Evidence of secondary considerations, such as unexpected results or

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commercial success, is irrelevant to 35 U.S.C. 102 rejections and thus cannot overcome a rejection so based. In re Wiggins, 488 F.2d 538, 543, 179 USPQ 421, 425 (CCPA 1973).

Relative to the Rejections under 35 USC 112, 2nd paragraph and the Claim Objections....While Counsel, in a good faith effort, attempted to remedy the 112, 2nd paragraph issues and Claim Objections, and as such this is noted, new 112, 2nd paragraph issues were created and are as set forth supra.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIE REDDICK whose telephone number is 2-5816.

The examiner can normally be reached on 6:30 am to 3:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID WU can be reached on 2-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marie Reddick
Patent Examiner
Art Unit 1796

/MR/
11/18/09

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796